

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

- 1 1-26 (Cancelled)
- 1 27 (currently amended) A method for detecting translation of a polynucleotide  
2 comprising the steps of:  
3 a) providing a substrate ~~comprising an adsorbent~~ for use in desorption  
4 spectrometry, wherein the substrate comprises a surface and an adsorbent attached to the surface;  
5 b) ~~contacting the substrate with the~~ providing a polynucleotide encoding a  
6 polypeptide and ~~with~~ reagents for in vitro translation of the polynucleotide;  
7 c) translating the polynucleotide *in situ* on the adsorbent, whereby the polypeptide  
8 is produced and is docked through the adsorbent to the substrate;  
9 [[c]] d) exposing the substrate to an eluant to wash off unbound material and to  
10 allow retention of the polypeptide by the adsorbent; and  
11 [[d]] e) detecting retained polypeptide by desorption spectrometry;  
12 whereby detection of the polypeptide provides detection of translation of the  
13 polynucleotide.
- 1 28-35 (Cancelled)
- 1 36 (New): The method of claim 27 wherein the adsorbent specifically binds the  
2 polypeptide.
- 1 37 (New): The method of claim 36 wherein the adsorbent comprises an  
2 antibody.

1                   38 (New): The method of claim 27 wherein the adsorbent is a hydrophilic  
2 interaction adsorbent, a hydrophobic interaction adsorbent, a metal chelate adsorbent, an anionic  
3 adsorbent or a cationic adsorbent.

1                   39 (New): The method of claim 27 wherein the polynucleotide comprises an  
2 mRNA.

1                   40 (New): The method of claim 39 wherein step (b) further comprises providing  
2 reagents for in vitro transcription of the mRNA.

1                   41 (New): The method of claim 27 wherein the polynucleotide is comprised in a  
2 genetic package.

1                   42 (New): The method of claim 27 wherein the genetic package is a  
2 bacteriophage.

1                   43 (New): The method of claim 27 wherein step (c) comprises creating a well  
2 over the substrate with the adsorbent at a bottom of the well and placing the reagents and the  
3 polynucleotide in the well.

1                   44 (New): The method of any of claims 27 and 36-43 wherein the substrate is a  
2 mass spectrometry probe and desorption spectrometry comprises laser desorption mass  
3 spectrometry.